

SPMS# 31236

AR 1009

BEFORE THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:)
)
McAULEY OIL COMPANY.)
)
)
)
Respondent.)
)
)
Proceeding under Sections 104)
and 106 of the Comprehensive)
Environmental Response, Compen-)
sation and Liability Act of)
1980, 42 U.S.C. §9606.)

Docket No. 84-14

ORDER

This Administrative Order (Order) is issued to the above-named Respondent by the United States Environmental Protection Agency (EPA), pursuant to Sections 104(a),(b), and (e) and 106(a) of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. §9604(a),(b), and (e) and §9606(a), by authority delegated to the undersigned by the Administrator of the United States Environmental Protection Agency. Notice of the issuance of this Order has been provided to the State of California.

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1 1,000 to 10,000 times that of the undisturbed contaminants.
2 Arsenic has been detected in the soil on one portion of the
3 site.

4 Sampling Data

5 6. The California Department of Health Services (DOHS)
6 analyzed air emissions from the site based on available data
7 from air sampling studies conducted by a number of agencies and
8 private companies. DOHS analysis indicates that there may be
9 about 50 substances in the air during odor episodes (times when
10 wind carries the chemicals into the adjoining residential area)
11 that could be attributed to the dump. The following substances
12 are attributable to the McColl site (substances identified in
13 air samples but not present in site waste material are not in-
14 cluded in this list):

15 A. Alkanes, Alkenes and Alcohols

16 2-Methylbutane
17 1,1-Dimethylcyclopropane
18 Hexane
19 2-Methylhexane
20 Heptane
21 2,5-Dimethylhexane
22 2,3,4-Trimethylpentane
23 Pentane
24 2-Methylpentane
25 Methylcyclopentane
26 2,3-Dimethylpentane
27 Methylcyclohexane
28 2,2-Dimethylhexane

1 2,3,3-Trimethylpentane

2 2,3-Dimethylhexane

3 2,2,5-Trimethylhexane

4 Isooctane

5 Pentene

6 4-Methylcyclopentene

7 Butanol

8 2-Butoxyethanol

9 3-Methylheptane

10 Nonane

11 2-Pentene

12 3-Methylpentane

13 2-Ethyl-1-hexanol

14 Ethanol

15 B. Aromatics

16 1,2,4-Trimethylbenzene

17 o-xylene

18 Naphthalene

19 Toluene

20 m,p-xylene

21 Ethylbenzene

22 C. Thioethers

23 Tetrahydrothiophene

24 D. Sulfur Dioxide

25 E. Carbon Disulfide

26 F. Benzene

27 7. Analysis of samples from the waste site for pH by Radian
28 and the State of California Department of Health Services (DOHS)

1 revealed that the waste is acidic, with the pH ranging from 0.17
2 to 1.8.

3 8. On October 9, 1980, EPA and the California DOHS sampled
4 waste from the site, with selected results as follows:

<u>Compound</u>	<u>Concentration</u>
Arsenic	None Detected to 190 ppm
Benzene	<90 to 880 mg/kg
Toluene	130 to 810 mg/kg
Tetrahydrothiophene	75 to 140 mg/kg

8 9. A sample of waste from the site collected by the
9 California DOHS on December 3, 1980, had an arsenic concentration
10 of 10,100 ug/g.

11 10. EPA's analysis of waste and soil samples collected
12 January 13, 1981, revealed the following concentrations:

<u>Compound</u>	<u>Concentration</u>
Benzene	5.6 to 220 mg/kg
Toluene	26 to 150 mg/kg
Xylene	None Detected to 660 mg/kg

16 11. Samples of waste from the site collected by California
17 DOHS on June 1, 1981, revealed arsenic concentrations from
18 <1.0 to 222.0 ug/g.

19 12. The State of California Air Resources Board analyzed
20 emissions from soil and sludge from the site at room temperature
21 as follows:

<u>Compound</u>	<u>Concentration</u>
Benzene	20 to 300 ppm
Toluene	9 to 100 ppm
Xylene	10 to 100 ppm
Aliphatic Hydrocarbons	7 to 1600 ppm

25 13. The California Air Resources Board sampled ambient air
26 during coring on-site by California DOHS in November 1980 with
27 the following results:

28 ///

1	<u>Compound</u>	<u>Concentration</u>
2	Benzene	8.2 to 43 ppm
3	Sulfur Dioxide	280 to 38,000 ppm

14. In 1982, TRC Environmental Consultants, Inc. under contract to the California DOHS, measured air emissions containing sulfur dioxide (SO₂) at the site perimeter during coring and trenching on-site by DOHS. SO₂ levels ranged from 10 to 2500 ppb. During the same time period benzene monitors in the community registered 5 to 170 ppb.

15. Arsenic concentrations from 0.043 to 0.523 mg/l and pH of 2.5 to 7.54 were found by the California Regional Water Quality Control Board in water runoff sampled from the site on January 21, 1982.

16. Benzene, toluene, xylene, and arsenic are hazardous substances as defined in §101(14) of CERCLA.

15 Endangerment

16 17. (A) Air Contaminants

17 Benzene, toluene and xylene, sulfur dioxide, and sulfur-containing organics are the most significant hazards to human health which are transmitted through the air.

20 (1) Benzene. Benzene has been detected in community air samples taken from the site. Benzene acts as a narcotic on the central nervous system. Acute benzene poisoning commences with nausea, vomiting, ataxia, and excitement, followed by depression and coma. Death can occur because of respiratory or cardiac failure. An exposure to 20,000 parts-per-million can be fatal within 5 to 10 minutes. Exposure to 100 parts-per-million daily can cause confusion, dizziness, fatigue, headache, nausea, and coma. There appears to be a correlation between benzene exposure

1 and leukemia in humans. Although benzene emissions from the undis-
2 turbed site have not been measured at hazardous levels, higher
3 emissions have been measured from the disturbed site. Moreover,
4 the threat of a benzene release from a site disturbance, such as
5 an earthquake, may present a substantial danger to the surrounding
6 community.

7 (2) Toluene and Xylene. Toluene and xylene have been
8 detected in waste samples and air emissions from the site. Inha-
9 lation of toluene vapors may produce irritation of the upper
10 respiratory tract, disturbance of vision, dizziness, nausea,
11 collapse, and coma. Direct contact with skin and eyes causes
12 burning. Inhalation of 200 parts per million for 8 hours may
13 cause impairment of coordination or reaction time. Concentrations
14 of 200 to 500 parts per million may cause headache, nausea, loss
15 of appetite, lassitude, and impairment of coordination and reaction
16 time. Higher concentrations may cause anemia, leucopenia and
17 enlargement of the liver.

18 (3) Sulfur Dioxide. Sulfur dioxide has been detected
19 in community air samples and in air emission samples taken at the
20 site. At concentrations as low as 0.09 parts per million, sulfur
21 dioxide acts as a respiratory irritant. During site disturbances,
22 sulfur dioxide levels in the community have reached 1,000 parts
23 per million. On-site emissions can be much higher, posing an
24 imminent hazard to anyone disturbing the site.

25 (4) Sulfur-Containing Organics. These organics, which
26 have been detected in community air samples, cause unpleasant
27 odors at extremely low concentrations -- part-per-billion levels.
28 There have been no studies to determine the effects of such

1 chemicals in humans.

2 (B) Water Contaminants

3 Storm water runoff from the site has contained arsenic
4 in excess of the Federal drinking water standard. Samples of
5 perched groundwater at 15 to 42 feet underlying the site reveal
6 low pH and high arsenic and sulfate levels. The McColl site is
7 underlain by a mixture of mudstone, sandstone and pebbly sand-
8 stone. Observation at and near the site reveal that the under-
9 lying soil contains an assemblage of lenses and layers of
10 clay, silt, sand and gravel. If the waste remains in place,
11 there are no known barriers to prevent the migration of hazardous
12 substances at the site into the ground water.

13 (C) Endangerment Through Direct Contact

14 People regularly walk upon the Los Coyotes parcel, which
15 is used for a golf course. The Ramparts parcel, although fenced,
16 is bordered by homes to the east and south, and the fence has
17 not prevented children and others from entering the land. The
18 two primary direct contact hazards are ingestion of arsenic and
19 contact with acidic sludge.

20 (1) Arsenic. Arsenic has been detected in waste samples
21 collected at the site in concentrations of 10,100 ug/g. There
22 is strong evidence that arsenic is a skin and lung carcinogen in
23 humans. Although the fatal dose of arsenic depends on body
24 weight, ingestion of a "pinch" of soil of such concentration
25 could produce acute poisoning, especially in children.

26 (2) Acidic Sludge. Acidic liquids oozing near the sur-
27 face pose a danger to humans. Golfers and children looking for
28 lost golf balls are likely to be exposed to direct contact

1 with the waste, which can cause burns to the eyes and skin. The
2 State DOHS Health Survey identified the significant risks of harm
3 to people from direct contact with the site:

4 "Scientists from the [State of California] Department
5 of Health Services are concerned about the potential health
6 effects from direct contact with waste materials on these
7 sites. Seepage materials on the Los Coyotes Golf Course
8 are very acidic and could cause burns to the eyes or skin
9 from direct contact. On the Ramparts portion of the McColl
10 site there is also the potential for acid burns. Digging
11 of a shallow hole a foot or two deep could release a quantity
12 of sulfur dioxide gas measurable in the thousands of parts
13 per million range. This could cause respiratory burns or
14 precipitate an asthmatic attack in individuals who are stand-
15 ing within a few feet of the hole. Finally, there is at
16 least one area (near the southwest corner of Ramparts) with
17 concentrations of arsenic sufficiently high that accidental
18 ingestion of a pinch of soil could produce acute poisoning
19 within 48 hours. These facts lead scientists and physicians
20 from the Department of Health Services to conclude that
21 direct contact with the site poses a significant public
22 health hazard." ("The McColl Site Health Survey, An Epide-
23 miological and Toxicological Assessment of the McColl Haz-
24 ardous Waste Disposal Site," August 1983, p. 9.)

25 (D) Documented Human Health Symptoms

26 There are approximately 1,200 people living within one-
27 half mile of the site. The State of California Department of
28 Health Services Epidemiological Studies Section conducted an

1 epidemiological and toxicological assessment of nearby residents
2 which was completed in August, 1983. Among the study findings
3 were the following:

4 (1) Adults and children in the area show an excess of such
5 symptoms as eye irritation, nausea, headaches, and sore throats.

6 (2) Complaints of odor were much more common from resi-
7 dents of the McColl area than from residents of the control area.

8 (3) The number of physician consultations per child were
9 higher in the McColl area than in the control area.

10 (4) More women in the McColl area reported disturbances
11 with their menstrual pattern than in the control area.

12 (5) It is impossible now to adequately assess whether the
13 McColl site presents a danger to area residents of increased can-
14 cer or birth defects. A small population, followed for only a
15 few years after first exposure, would not be expected to have a
16 detectable increase in cancer rates. The population surrounding
17 the site is much smaller than that necessary for adequate epide-
18 miological studies. In order to detect a statistically significant
19 difference in symptoms such as cancer, miscarriage, stillbirths,
20 prematurity, and birth defects, the residents near the site would
21 have to exhibit five to twenty times more symptoms than the
22 control neighborhood. No differences of that magnitude have been
23 detected. Differences of a lesser, though still serious, magni-
24 tude cannot be ruled out, however.

25 18. Earthquake Danger. The McColl site is located on the
26 Coyote Hills uplift. A low scarp along the south margin of the
27 Coyote Hills is surface evidence of an active fault, and a source
28 of earthquakes. There have been earthquakes of magnitude 6 or

1 greater in this area in the past, and the Seismologist for the
2 California Division of Mines and Geology states that it is reason-
3 able to expect similar and larger shocks in the future. There are
4 seven active faults within 16 miles of the McColl site: the Nor-
5 walk, El Modeno, Whittier, Elsinore, Whittier-Elsinore, Newport-
6 Inglewood, and the offshore zone of deformation (ranging from the
7 Newport-Inglewood fault to the north to and including the Rose
8 Canyon fault on the south). The closest fault is the Norwalk,
9 less than one mile from the site.

10 19. The State DOHS made stability analyses of postulated
11 failure surfaces along nine (9) cross sections of the site
12 (through three places on the lower berm and six places on the
13 upper berm). Under conditions of seismic shaking, two (2) of the
14 cross sections would fail (there would be earth movement) when
15 dry and seven (7) would fail when saturated.

16 20. The State Department of Health Services Geotechnical
17 investigation of the McColl site indicated that an earthquake of
18 magnitude 6 or greater would cause "a slumping of the complete
19 upper berm and a significant slump of the lower berm" into a
20 backyard adjacent to the site, and that there could be enough
21 offsite movement for mudflow to reach the edge of the swimming
22 pool on the lot adjacent to the lower berm. The State report
23 concluded:

24 "The most significant aspect of these failures [of
25 the berms] would be a rupture of the waste, with as much
26 as 3,000 square feet of exposed surface area. This would
27 allow the release of a significant amount of noxious gases,
28 consisting of SO₂, H₂S, and others." ("Geotechnical In-

1 vestigation of the McColl Site," January 8, 1982, Alterna-
2 tive Technology and Policy Development Section, Department
3 of Health Services, p. 5.)

4 Administrative Actions

5 21. On January 13, 1984, the California Department of Health
6 Services determined, on the basis of its factual review of the
7 site, that there may be an imminent or substantial endangerment
8 to the health or welfare or to the environment at the site. The
9 Department's principal findings and recommendations were summarized
10 as follows:

11 "The McColl hazardous waste site in Fullerton con-
12 sists of acid refinery sludge high in sulfur compounds.
13 Four of the sumps are exposed on land adjacent to a re-
14 sidential development. There has been a history of odor
15 complaints due to emissions of sulfur dioxide, thiophenes
16 and other hydrocarbons. Sulfur dioxide is found on site
17 and is highly toxic at the concentrations observed. A
18 temporary cover was placed over four of the sumps to stop
19 the emission of gases. This was only intended as an in-
20 terim measure and is now resulting in emissions reoccurring.
21 A health study has indicated that the site has had mea-
22 surable health effects such as asthma, headaches, and sore
23 throats of residents in the neighborhood. This represents
24 an imminent or substantial endangerment to public health
25 and the environment due to a threatened release of hazard-
26 ous substances."

27 22. On April 11, 1984, the Environmental Protection Agency
28 determined that excavation and redispisal of the waste and con-

1 taminated soil at the McColl site was the cost-effective remedial
2 alternative, pursuant to 40 CFR 300.68(j). A Record of Decision,
3 signed by Lee Thomas, Assistant Administrator for Solid Waste and
4 Emergency Response, on April 11, 1984 is incorporated herein as
5 Appendix C.

6 23. In order to protect public health and welfare and the
7 environment, EPA has ordered the responsible parties to implement
8 the Remedial Plan more fully described in the attached Appendix
9 A. The Plan essentially involves the excavation and removal of
10 the waste from the site to an approved disposal facility.

11 24. For the purposes of implementing the Remedial Plan,
12 access to the Los Coyotes parcel will be necessary.

13 25. EPA has sought access to the property (pursuant to
14 Sections 104(a), (b), and (e), and 106(a) of CERCLA, 42 U.S.C.
15 §9604(a), (b), and (e) and 9606(a)) by voluntary agreement
16 for the purposes described herein, but EPA's request for
17 access has been denied.

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CONCLUSIONS OF LAW

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2 1. The Los Coyotes parcel of the McColl site is a
3 "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C.
4 9601(9).

5 2. Respondent is a "person" as defined in Section
6 101(21) of CERCLA, 42 U.S.C. 9601(21).

7 3. Wastes sent to and disposed of at the site include
8 "hazardous substances" as defined in Section 101(14) of CERCLA,
9 42 U.S.C. 9601(14).

10 4. The past, present, and potential migration of haz-
11 ardous substances from the facility into the air and water
12 constitutes actual and threatened "release" as defined in
13 Section 101(22) of CERCLA, 42 U.S.C. 9601(22).

14 5. Respondent McAuley Oil Company is a responsible party
15 pursuant to §107(a)(1) of CERCLA, because it owns the Los Coyotes
16 parcel.

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DETERMINATIONS

Based upon the foregoing FINDINGS OF FACT and CONCLUSIONS OF LAW, EPA has determined that:

1. The actual and threatened release of hazardous substances from the facility may present an imminent and substantial endangerment to the public health, welfare, and the environment.

2. The response actions required by this Order are necessary to protect public health and welfare and the environment.

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I. Access.

A. Access to the property to accomplish all of the
es necessary to implement the Remedial Plan for the
on of the waste on the site, as more fully described
lix A.

C. Access to the property to enforce the provisions
I of CERCLA.

- 17 -

1 II. Enforcement

2 Violation of this Order shall be enforceable pursuant to
3 Sections 106(b) and 113(b) of CERCLA, 42 U.S.C. 9606(b) and
4 9613(b).

5 III. Penalties for Noncompliance

6 Failure to comply may also subject Respondent to civil
7 penalties and/or punitive damages in an amount up to three
8 times the amount of any costs incurred by the United States as
9 a result of such failure, as provided in Sections 106(b) and
10 107(c)(3) of CERCLA, 42 U.S.C. 9606(b) and 9607(c)(3). Nothing
11 herein shall preclude EPA from taking such other actions as
12 may be necessary to protect the public health and welfare or
13 the environment and recovering the costs thereof.

14 IV. Parties Bound

15 This Order shall apply to and be binding upon the Respondent,
16 its officers, directors, agents, employees, contractors, succes-
17 sors, and assigns.

18 V. Opportunity to Confer

19 The Respondent may request, within seven (7) days after
20 receipt of this Order, a conference with EPA to be held within
21 fourteen (14) days of the date of issuance to discuss this
22 Order, including its applicability, the factual determinations
23 upon which the Order is based, the appropriateness of any actions
24 which the Respondent is ordered to take, or any other relevant
25 and material issues or contentions which Respondent may have
26 regarding this Order. Respondent may appear in person or by an
27 attorney or other representative at any conference held at its
28 request. Any request for a conference should be made to:

1 William D. Wick
2 Assistant Regional Counsel
3 EPA, Region 9
4 215 Fremont Street
5 San Francisco, CA 94105
6 (415) 974-8039

7 VI. Effective Date

8 This Order is effective twenty-one (21) days after the date
9 of issuance, notwithstanding any conferences requested pursuant
10 to paragraph V above, and all times for performance or response
11 activities shall be calculated from that date.

12 Date of Issuance: 20 JUL 1984
13

14 By: 

15 Judith E. Ayres
16 Regional Administrator
17 U. S. Environmental Protection
18 Agency
19 Region 9
20 215 Fremont Street
21 San Francisco, CA 94105
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